Breeding Indexes

While individual EBVs aid the selection of breeding stock for specific traits, they can also be combined into breeding indexes.

Each trait will be weighted within the index according to its economic importance in meeting a specific breeding objective or set of objectives.

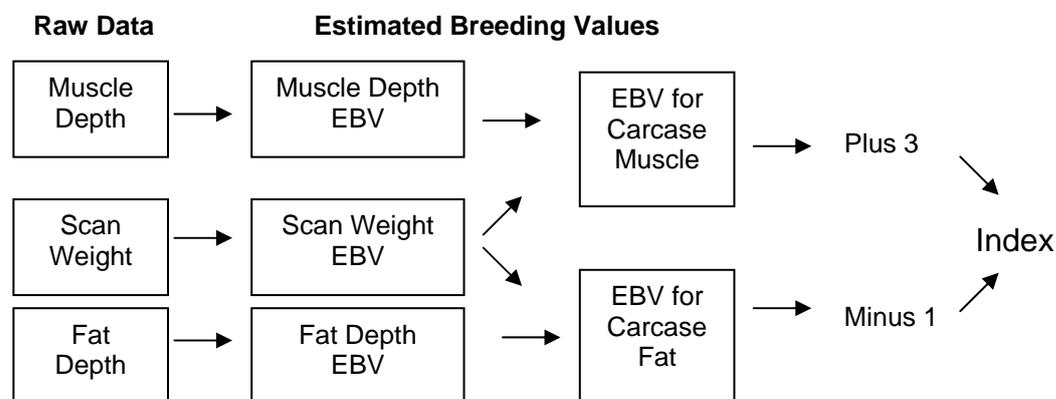The Sheepbreeder Service produces five indexes:

Index	Main breeds using the index
Terminal Sire Index	Charollais, Hampshire Down, Ile de France, Meatlinc, Poll Dorset, Suffolk, Texel Vendeen,
Maternal Index	Some Lleyn and Poll Dorset flocks
Longwool Index	Blue Faced Leicester
Welsh Index / Carcase + Index	Welsh hill breeds, such a Beulah and Welsh Hardy Speckles and the Lleyn
Hill 2 Index	Scottish Blackface and North Country Cheviot

Terminal Sire Index

The index used to select superior terminal sires is designed to increase the yield of lean meat in the carcase, while limiting any associated rise in fatness.

Weight data and ultrasonic measurements of muscle and fat depth are used to predict the total amount of muscle and fat in the carcase. Relative economic weightings of +3 and −1 are then applied to produce an overall index on which rams can be ranked. In recent years the use of Computed Tomography has enabled breeders to directly measure the quantity of muscle and fat in the carcase.

Conversion of ultrasonic on-farm measurements into the terminal sire index

Maternal Index

The Maternal Index will enhance lamb survival and pre-weaning growth rates by improving maternal ability. The maternal index is particularly useful within self-replacing flocks, where the number of lambs reared to weaning has a major impact on flock profitability.

The Maternal Index is calculated using the EBVs for Litter Size, 8-week Weight, Mature Size and Maternal Ability. Weightings vary between breeds.

Longwool Index

The Longwool Index is designed to enhance the carcase quality of longwool rams and their progeny, enhancing their financial productivity as crossing sires. Increases in lamb growth rates are important, but these increases are controlled so that ewe mature size does not become excessive. The index will maintain prolificacy at current levels.

High index longwool rams will sire commercial ewes of an appropriate mature size that produce lambs with good growth rates, superior carcase conformation. The index is calculated from the EBVs for Scan Weight, Muscle depth, Fat depth and Litter Size.

Hill Index

The Hill Index has been designed to enhance the overall productivity of the ewe by improving several traits simultaneously, most significantly the number of lambs successfully reared.

Using the index to choose female replacements will result in an increase in ewe mature weight, maternal ability, longevity and the number of lambs reared to weaning. Lamb growth rates will increase resulting in lambs with heavier carcase weights at a constant age. Most of the EBVs are used to calculate the Hill Index.

Welsh Index / Carcase+ Index

The Welsh Index / Carcase+ Index identifies sheep with superior breeding potential for maternal ability, lamb growth and carcase quality.

Commercial producers selecting rams with high indexes will breed ewes with superior maternal ability and lambs that grow efficiently and produce an improved proportion of lean meat within their carcases.